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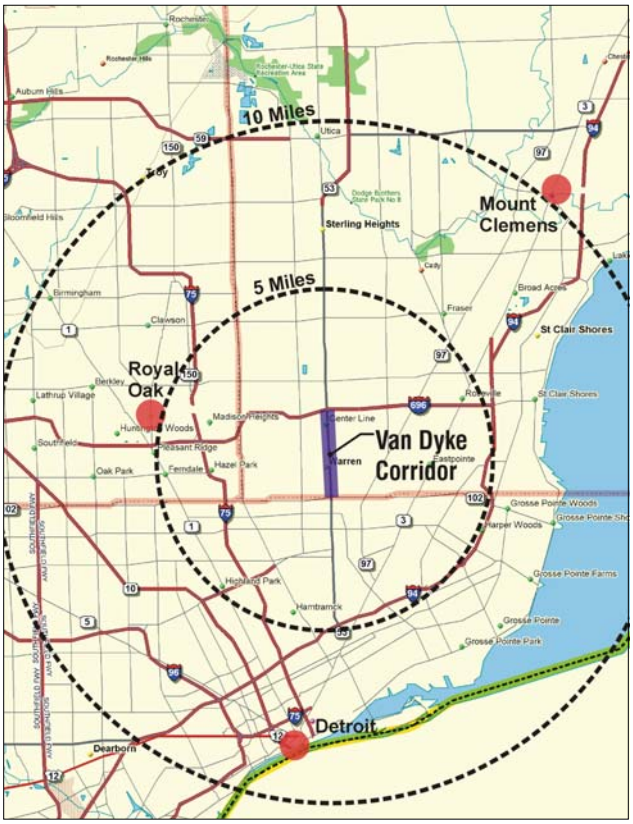
Chapter 1: Introduction



Van Dyke Avenue is at a critical juncture in its evolution. Defining its future role as a significant commercial corridor is vital. Van Dyke Avenue connects Detroit to the tip of Michigan's thumb. This plan represents a modest three-mile segment of Van Dyke, running from Eight Mile Road to I-696. Spanning equal lengths of the Cities of Warren and Center Line, the study corridor is home to a variety of land uses including retail, service, office, institutional and multi-family housing. Like other mature commercial corridors, Van Dyke evolved over time by following an outward pattern of suburban growth based on now outdated zoning models. Periods of rapid post WWII expansion resulted in non-descript strip development. Van Dyke Avenue lacks unifying elements people often associate with attractive and desirable commercial settings, such as wide sidewalks, street-side trees and interesting architectural expression.

The City of Warren and the City of Center Line recognize the importance of maintaining a healthy and vibrant district in the future, and staying competitive with nearby business districts, traditional downtowns, malls and large, single destination stores. With the help of a grant from the Michigan Economic Development Corporation, this plan examines how Van Dyke Avenue can be unified and enhanced by changing land use and character, and by improving public and private infrastructure.

What does the Plan do?

The *Van Dyke Avenue Corridor Study* provides the foundation for managing improvements to the corridor. It depicts a vision for the future by illustrating potential façade and streetscape improvements while offering creative solutions for traffic and parking issues. Concepts supporting linkages, landscaping, pedestrian

Goals of the Van Dyke Avenue Corridor Study

Warren and Center Line have begun the process of working together to enhance the appearance and viability of the corridor. Public input from a survey, stakeholder meetings and discussion sessions helped identify complex issues affecting Van Dyke's future. The participants formulated these goals for improving the corridor.

1. *Create, communicate and implement a shared vision.*
2. *Improve vehicular flow and circulation.*
3. *Create a pedestrian friendly environment.*
4. *Enhance the overall appearance and character.*
5. *Implement necessary tools to establish the vision.*

circulation, building facades, lighting, signage, parking and street amenities are identified as part of an overall enhancement strategy. Recommendations for image improvements build on current strengths, such as successful family businesses and adjacent neighborhoods.

The corridor study sets priorities and establishes directions responding to specific issues affecting the success of the corridor. Goals identified by the community are supported by recommendations for future action. The study serves as an effective tool to guide enhancement of the existing business environment, and attract new businesses. Modifications to zoning and sign requirements are recommended, as are urban design guidelines to encourage appropriate new construction and renovation. Elements addressed in the study include:

- Existing traffic operating characteristics of the corridor
- Evaluation of alternative traffic operation plans
- Establishing façade and site design guidelines
- Improvements to vehicular and pedestrian circulation
- Conceptual policies for streetscape improvements
- Functional and aesthetic improvements for parking areas
- Implementation strategy and budgets for improvements
- Ordinance recommendations

Despite the repetitive and generic nature of its strip infrastructure, Van Dyke Avenue hosts a complex commercial environment. Highlighting hidden traits can help shed the perception that Van Dyke is a loose collection of land uses and allow it to emerge as a distinct place with identifiable sub-districts and special characteristics. It can take advantage of its location and inherent character to create a strong identity by reinforcing its role as an important street with unique districts.

The History of Van Dyke Avenue

Commercial development began as households expanded from Detroit. The first shops were built on relatively narrow platted lots that fronted the street right-of-way. This initial pattern of growth began in the1920's and continued south to north for nearly three decades. As the transition from horse and buggy to automotive transportation gained momentum, people reached Center Line and Warren from

Detroit via the Van Dyke street car, which ended at Ten Mile Road.

As the Center Line and Warren communities grew, construction of small commercial shops was spurred by the growing market of residential neighborhoods being built adjacent to Van Dyke.

Development since the 1960's has favored larger sites to accommodate increased automobile use. Because adequate modern lot sizes cannot be found without costly purchases of adjacent homes, commercial development has slowed.

Van Dyke Avenue within the limits of this corridor study is a state trunkline (designated M-53) under the jurisdiction of the Michigan Department of Transportation (MDOT). Historically, the State of Michigan has designated non-freeway routes that are critical for the statewide transportation network as trunklines. Before the creation of the interstate system, Van Dyke Avenue (M-53) served as a critical arterial for most of eastern Michigan.

As a trunkline under state jurisdiction, any improvements to Van Dyke Avenue, within the road right-of-way, must be approved by and coordinated with MDOT. The cities of Center Line and Warren worked closely with MDOT throughout the study process to develop a feasible improvement plan.

The Planning Process

The planning process involved three phases. Phase 1 focused on information gathering, site analysis, and determining a vision. Phase 2 identified prototypical approaches for transportation, circulation and parking improvements. Phase 3 produced a work program for final conceptual design and management framework recommendations. All three phases helped build consensus for a unified vision.

Business stakeholders and residents of Warren and Center Line actively participated in the planning process. Three consensus-building sessions were held. Attendees offered personal observations during the first session. These were listed under four headings - Strengths (current), Weaknesses (current), Opportunities (future) and Threats (future). This process is commonly known as a SWOT analysis. Findings and analysis were presented at the second and third sessions (See Figure 1). Stakeholder participation helped increase the awareness of challenges facing the corridor, stimulated a high level of interaction and generated enthusiasm for pursuing improvements. Many of the concerns expressed by the public revolve around the uninspired character of the corridor, the use of on-street parking and the need to remove obstacles that deter private investment and redevelopment.

Figure 1: SWOT Analysis Results

Strengths

- *Excellent Traffic Flow*
- *Center Line – City Services/*
- *Snow Removal/DPW*
- *Cultural and Economic Diversity*

Weaknesses

- *Vacant Buildings*
- *Available Parking*
- *Building Facades*
- *Lack of Pedestrian Crossings on Van Dyke*

Opportunities

- *New public facilities at South End*
- *On-Street Parking*
- *Easy, Fast Access*
- *Monetary Incentives for Business Improvement*
- *Equal Treatment for Both North and South Ends*
- *Buy Homes to Rear of Businesses to Increase Parking and Support Services*

Threats

- *Vacant Buildings*
- *On-street Parking – Safety Restricted Traffic Flow – Causing Accidents*

A community survey was distributed at stakeholder work sessions one and two, mailed to business owners and posted on the Cities' websites. Respondents were asked to rank the three most important needs for revitalizing Van Dyke in the categories of transportation, streetscape

and maintenance. A variety of topics were addressed within each category.

- Transportation – This category involves how the movement and parking of cars, trucks and pedestrians currently function and ways to improve these functions. Issues included slowing vehicle traffic (traffic calming), increasing the number of parking spaces, making the sidewalks user-friendly, improving crosswalks and similar items.

- Streetscape – This category includes observations and ways to improve visual character and perception of both public right-of-way and private property. Issues included improving the type and location of landscaping, street trees, decorative paving, lighting and other amenities such as trash receptacles and benches.

- Maintenance – The visual perception and functional use of buildings, sidewalks, parking lots and other elements of the built environment were addressed. Improving the causes and effects of blight through litter pickup, code enforcement and taking responsibility and similar items were response topics.

Several themes evolved; among them, a strong desire to improve the streetscape, lower the traffic speed, and establish an organization dedicated to business support, new business recruitment and maintenance. These responses echoed the comments given at the work sessions. Priorities derived from the survey results are summarized in Figure 2. A copy of the survey form can be found in Appendix A.

Figure 2: Summary of Survey Results

Category		***%***
Transportation	*Traffic Calming*	*54%*
	Pedestrian Safety	*43%*
	Lack of Parking	*26%*
Streetscape	*Landscaping*	*60%*
	Lighting	*51%*
	Amenities	*29%*
Maintenance	*Litter*	*54%*
	Sidewalk/Alley Maintenance	*43%*
	Code Enforcement	*31%*

Chapter 2: Existing Conditions

Existing Conditions

- *Existing volumes*
- *Existing morning and afternoon peak hour,*
- *Existing Parking supply, by segment*
- *Crash Summary, by intersection*
- *Existing level of service analysis*

Table 1 – Existing Peak Hours

Intersection	AM Peak Hour	PM Peak Hour
Van Dyke & Eight Mile	7:30 – 8:30	4:00 – 5:00
Van Dyke & Westminster	7:30 – 8:30	4:15 – 5:15
Van Dyke & Toepfer	7:30 – 8:30	4:30 – 5:30
Van Dyke & 9 Mile	7:15 – 8:15	4:15 – 5:15
Van Dyke & Stephens	7:30 – 8:30	4:00 – 5:00
Van Dyke & 10 Mile	7:00 – 8:00	4:45 – 5:45
Van Dyke & Engleman	7:30 – 8:30	4:00 – 5:00
Van Dyke & Bernice	7:15 – 8:15	4:00 – 5:00
Van Dyke & Service Drives	7:30 – 8:30	4:30 – 5:30
Corridor	**7:30 – 8:30**	**4:00 – 5:00**

Existing Traffic Volumes

The first step in performing any corridor study is collecting existing traffic data. An analysis of existing conditions and the projections of future traffic operations is based on existing traffic volumes and patterns.

Tetra Tech MPS (TTMPS), collected A.M. (7:00 a.m. to 9:00 a.m.) and P.M. (4 p.m. to 6 p.m.) peak period turning movement counts at the following intersections in February and March, 2003:

- Van Dyke Avenue & Eight Mile Road
- Van Dyke Avenue & Westminster Road
- Van Dyke Avenue & Toepfer Road
- Van Dyke Avenue & Nine Mile Road
- Van Dyke Avenue & Stephens Road
- Van Dyke Avenue & Ten Mile Road
- Van Dyke Avenue & Engleman Road
- Van Dyke Avenue & Bernice Road
- Van Dyke Avenue & Eleven Mile Road (I-696 Service Drives)

Results of these traffic counts can be found in Appendix B.

Traffic volumes at the intersection of Van Dyke Avenue and Hupp Road were extrapolated from the volumes at Van Dyke

Avenue and Toepfer Road and Van Dyke Avenue and Nine Mile Road. The results of the peak hour turning movement counts can be found in Figures 3A through 3J.

Peak Hours

Table 1 summarizes the peak hours of traffic operation for the individual intersections and the entire corridor.

Volume Summary

Traffic volumes are heaviest in the northern section of the corridor, between I-696 and Nine Mile Road, during both peak hours. While the directional differences during both peak hours are expected for most roadways, the differences are not significant enough to assume Van Dyke Avenue south of I-696 functions as a "through" commuter route. The major east/west cross streets exhibit more of a "commuter route" pattern, with westbound volumes significantly higher than eastbound during the morning peak hour, and eastbound volumes significantly higher than westbound during the evening peak hour.

Lane Geometries

Van Dyke Avenue is a seven lane cross-section along it's entire length from I-696 to Eight Mile Road, with three through lanes in each direction and a two-way center left turn lane. Dedicated right turn lanes are provided on northbound Van Dyke Road at the eastbound I-696 Service Drive, on southbound Van Dyke Avenue at Ten Mile Road, and on northbound Van Dyke Avenue at Nine Mile Road.

Side street configurations range from one lane approaches on unsignalized cross streets, to four-lane approaches, such as at Nine Mile Road and Ten Mile Road. Eight Mile Road at Van Dyke Avenue includes 6 approach lanes in each direction.

Traffic Signals

Traffic operations at Van Dyke Avenue and the major cross streets are controlled by traffic signals. Traffic signals included in the study area corridor are located along Van Dyke Avenue at the I-696 Service Drives, Bernice Road, Engleman Road, Ten Mile Road, Stephens Road, Nine Mile Road, Hupp Road, Toepfer Road, Westminster Road, and Eight Mile Road. All signals operate with a 120-second cycle length during both the morning and evening peak hours, except at Eight Mile Road. The Eight Mile Road signals operate at an 80-second cycle length during both peak hours. As is typical with most signalized facilities under MDOT jurisdiction, those signals with protected left turn arrows operate under a "Lag" phasing scheme; under lag phasing, the left turn green arrow is indicated after the through traffic in the same direction is permitted through a solid green signal indication.

Figure 3A

Figure 3B

Figure 3C

Figure 3D

Figure 3E

Figure 3F

Figure 3G

Figure 3H

Figure 3I

Figure 3J

Parking

Residents and business owners along the Van Dyke Avenue corridor have indicated parking concerns along the road; both the location of existing parking, and the number of available parking spaces. TTMPS counted the amount of parking spaces available on both sides of Van Dyke Avenue. The parking summary is located in Table 2, below. Distinctions were made between on-street parking along side streets, off-street "public lots", and off-street "private lots". "Private lots" include parking areas provided for specific business or land-uses, while public lots refer to parking areas that do not appear to be associated with specific businesses or land uses. Some areas designated as a Public Lot in the table may include unregulated private property used for general parking.

Most of the available parking is located on the northern section of the corridor (north of Ten Mile Road). However, north of Ten Mile Road, there is very little public parking available on the east side of Van Dyke Avenue. This trend actually continues throughout the length of the study area corridor, with more public parking being available on the west side of the corridor.

Vehicle Crash Data

MDOT provided a three-year crash history for the study area corridor. These crash totals were summarized along the corridor, and at the signalized cross streets. Table 3, below, summarizes the crash data.

As expected, the intersections with the higher traffic volumes (the "Mile" roads) have experienced a higher number of crashes than other intersections. The intersection of Van Dyke Avenue and Nine Mile Road, despite carrying less traffic than the intersection of Van Dyke Avenue and Ten Mile Road, showed the highest number of crashes after the I-696 service drives.

Table 2 – Parking Summary

Parking Type	West Side	East Side
8 Mile to 9 Mile		
Side Street (On-Street)	149	143
Public Lot *	107	42
Private Lot	440	499
Total	**696**	**684**
Segment Total	**1,380**	
9 Mile to 10 Mile		
Side Street (On-Street)	103	110
Public Lot *	125	28
Private Lot	526	571
Total	**754**	**709**
Segment Total	**1,463**	
10 Mile to I-696		
Side Street (On-Street)	18	100
Public Lot *	213	0
Private Lot	755	727
Total	**986**	**827**
Segment Total	**1,813**	

*May include unregulated private property used for general parking

Table 3 – Crash Summary

Intersection	Total
EB Service Drive & Van Dyke	104
9 Mile & Van Dyke	68
10 Mile & Van Dyke	64
Bernice & Van Dyke	50
Stephens & Van Dyke	31
Engleman & Van Dyke	26
Toepfer & Van Dyke	25
Hupp & Van Dyke	18
Westminster & Van Dyke	9

The intersection of Van Dyke Avenue and Bernice Road, which we have classified as a "minor" cross street, is the fourth-highest crash intersection, and the intersection with the highest number of crashes after the

"Mile Roads". This indicates that further study of this intersection may be warranted to determine the causes and potential solutions of the number of crashes at this location.

Public Transportation

The Suburban Mobility Authority for Regional Transportation (SMART) operates numerous travel routes throughout Southeast Michigan. Route 510 runs the full length of Van Dyke Avenue in the study area. It provides transfer points at Ten Mile Road (Route 730), Nine Mile Road (Route 710) and Eight Mile Road (DDOT connections). A Park and Ride lot is located at Van Dyke Avenue and Chicago Road, north of the study area.

Modeling

Synchro and Sim Traffic models were developed for the Van Dyke Avenue corridor to analyze existing traffic conditions and potential future alternatives. Synchro is a traffic software package for modeling and optimizing traffic signal timings and corridor operations. SimTraffic is a microscopic simulation model that graphically simulates a wide variety of traffic controls and geometric layouts.

Several inputs are needed for an effective, accurate model. These inputs include data collected in the field and from MDOT, such as traffic volumes, lane configurations, traffic signal timings, and cross street locations. The results of the analysis model include several pieces of data that are useful indicators of how traffic operates at each individual intersection and along the corridor, called measures of effectiveness (MOEs), such as average delay per vehicle, intersection levels of service, vehicle queue lengths, average travel speed, and average travel times.

Level of Service Analysis

A level of service (LOS) analysis was performed for the study area corridor during the morning and evening peak hours. Level of service analyses provide an indication of the amount of congestion experienced along a road facility and how the facility operates with respect to its capacity.

According to the most recent edition (2000 Edition) of the *Highway Capacity Manual*, level of service is a qualitative measure describing operational conditions of a traffic stream or intersection. Level of service ranges from A to F, with LOS A being the best. LOS D is generally considered to be acceptable. Table 4 presents the criteria for defining the various levels of service for signalized intersections.

The results of the level of service analysis for the corridor under existing conditions are summarized in Tables 5 and 6.

Table 4
Level of Service Criteria (Signalized Intersection)

Level of Service	Average Stopped Delay/Vehicle (seconds)
A	≤10
B	>10 and ≤20
C	>20 and ≤35
D	>35 and ≤55
E	>55 and ≤80
F	>80

Note: LOS "D" is considered acceptable in urban/suburban areas.

Table 5 – Southern Corridor Level of Service

Approach	AM		PM	
	Delay	LOS	Delay	LOS
8 Mile (EB) and Van Dyke				
Northbound	16.6	B	18.9	B
Southbound	1.5	A	1.5	A
Eastbound	5.2	A	8.3	A
Overall	**6.6**	**A**	**9.6**	**A**
8 Mile (WB) and Van Dyke				
Northbound	1.6	A	3.4	A
Southbound	18.9	B	19.1	B
Westbound	10.8	B	5.4	A
Overall	**11.7**	**B**	**8.1**	**A**
Westminster and Van Dyke				
Northbound	6.4	A	7.2	A
Southbound	6.3	A	3.0	A
Eastbound	36.2	D	36.4	D
Westbound	36.1	D	36.0	D
Overall	**7.1**	**A**	**6.0**	**A**
Toepfer and Van Dyke				
Northbound	7.0	A	2.9	A
Southbound	1.2	A	8.9	A
Eastbound	34.9	C	36.2	D
Westbound	37.1	D	37.9	D
Overall	**6.9**	**A**	**8.4**	**A**
Hupp and Van Dyke				
Northbound	2.4	A	2.4	A
Southbound	5.6	A	2.2	A
Eastbound	37.8	D	37.8	D
Westbound	37.8	D	37.8	D
Overall	**6.5**	**A**	**4.1**	**A**

Table 6 – Northern Corridor Level of Service

Approach	AM		PM	
	Delay	LOS	Delay	LOS
9 Mile and Van Dyke				
Northbound	18.0	B	20.6	C
Southbound	18.8	B	30.0	C
Eastbound	40.2	D	62.6	E
Westbound	41.1	D	38.2	D
Overall	**26.6**	**C**	**34.0**	**C**
Stephens and Van Dyke				
Northbound	2.3	A	1.5	A
Southbound	8.0	A	11.7	B
Eastbound	34.1	C	35.5	D
Westbound	41.9	D	43.6	D
Overall	**9.3**	**A**	**10.1**	**B**
10 Mile and Van Dyke				
Northbound	12.9	B	16.8	B
Southbound	47.2	D	57.6	E
Eastbound	37.7	D	42.7	D
Westbound	45.4	D	38.8	D
Overall	**35.3**	**D**	**39.3**	**D**
Engleman and Van Dyke				
Northbound	4.0	A	6.3	A
Southbound	12.0	B	12.7	B
Eastbound	29.6	C	39.8	D
Westbound	32.8	C	35.8	D
Overall	**10.1**	**B**	**13.1**	**B**
Bernice and Van Dyke				
Northbound	2.3	A	3.0	A
Southbound	17.8	B	4.8	A
Eastbound	34.5	C	54.8	D
Westbound	35.4	D	35.2	D
Overall	**13.2**	**B**	**9.3**	**A**
EB Service Drive and Van Dyke				
Northbound	18.8	B	36.2	D
Southbound	12.2	B	12.1	B
Eastbound	30.6	C	39.5	D
Overall	**21.5**	**C**	**32.2**	**C**
WB Service Drive and Van Dyke				
Northbound	23.2	C	22.2	C
Southbound	34.6	C	64.5	E
Westbound	83.1	F	24.3	C
Overall	**49.7**	**D**	**41.9**	**D**

During the morning peak hour, all intersections within the study area corridor operate at an overall level of service C or better, except for the intersections of Van Dyke Avenue and the westbound I-696 service Drive and Van Dyke Avenue and Ten Mile Road, which both operate at an overall level of service D. The westbound approach at the I-696 Service Drives operates at level of service F. During the evening peak hour, all intersections within the study area corridor operate at an overall level of service C or better, except for the intersections of Van Dyke Avenue and the Westbound I-696 Service Drive, and Van Dyke Avenue and Ten Mile Road. The southbound Van Dyke Approach at the Westbound I-696 Service Drive, the southbound approach at Ten Mile Road, and the eastbound approach at Nine Mile Road all operate at level of service E.

Land Use Patterns

Van Dyke Avenue functions as the commercial spine of Warren and Center Line, fronted by hundreds of small businesses. It is defined by three miles of indistinguishable one-story commercial buildings. Recent development includes existing building improvements and re-tenanting. Franchise businesses are responsible for the majority of the tear down and rebuilds.

Based upon observation, a pattern of business types is not recognized. This is not unusual for an inner-ring suburban strip such as Van Dyke. Figure 4, Existing Land Use Map shows the land use pattern and includes general observations. However, two loose concentrations of development are seen. A nearby collection of automobile dealerships is located north of Ten Mile Road. Also, a hub of mixed-use activity occurs north of Ten Mile Road. This area has connected shopping areas, a high-rise senior apartment (the sole residential development within the study area) and St. Clement Church. This area has the ingredients to become an organized model of redevelopment. However, beyond the high rise apartments, the lack of residential housing is readily apparent. Although a pattern of development is the preferred method for establishing starting points for investment, quite possibly, the lack of a residential land use may provide the key to improvement.

Zoning Patterns

Zoning is the legal tool used to guide land development. The structure and details of both Warren's and Center Line's ordinance compromise Van Dyke's ability to create "pulse nodes of activity" and diversify the land use pattern.

Four existing zoning conditions mitigate the opportunity to increase architectural scale, organize the massing of buildings and set a definitive setback line for all structures.

- Pyramidal zoning, currently in place along Van Dyke, allows commercial land uses in a less intense category to be established in more intense districts. This has the effect of diluting efforts to concentrate businesses that benefit from each other. As a matter of example, if the enticement of higher-density residential development is desired, future residents may find the concentration of convenience retailers important to their living routine. As currently seen, convenience businesses are spread out too far to walk to.
- Current zoning segregates land uses, prohibiting higher density loft or townhome residences from readily locating in business districts. These uses may provide vital to stimulating investment.

- Conventional setback requirements allow buildings to fluctuate their location in relation to the right-of-way line rather than delineating a uniform edge. A more dramatic visual impact can be made by unifying the collection of businesses into complete "whole". Shopping centers and historic downtowns operate on this premise.
- Finally, building height is restricted to two stories throughout the length of the corridor. Greater height may allow developers to increase density or mix uses so that their development costs can be recovered and exceeded. Recent development practice promoted by the Urban Land Institute encourages the use of vertical distinction at specific locations with uniform horizontal siting of buildings. This concept is not encouraged in both cities' ordinances.

Figure 4 summarizes the existing corridor land uses.

Pedestrian Amenities

Generally, sidewalks near the south end of the corridor have more maintenance issues. Although the maintenance of all sidewalks is very important, a pressing concern is the steep pavement slope from the buildings toward the Van Dyke curb. This situation occurs on the east side of the highway north of Eight Mile Road. A sidewalk analysis program should be initiated throughout the corridor to address specific condition whether they involve improper slope, cracked pavement or trip hazards.

Extensive public improvements have been completed south of Stephens. The City of Warren completed a streetscape program, highlighted by street trees and ornamental lighting. Unfortunately, a great many trees did not survive and the pedestrian scaled decorative lighting does not fit the highway character of Van Dyke.

Figure 4 – Existing Land Uses

Chapter 3: Opportunities and Constraints

Opportunities and Constraints

- *Opportunities*
  - *Location*
  - *Market Trends*
  - *Public Transportation*
  - *Existing Businesses*
- *Constraints*
  - *Property Configuration*
  - *Noise, Dust and Litter*
  - *Unfavorable Pedestrian Qualities*
  - *Parking*
  - *Building Age*

The characteristics of the corridor and its adjoining neighborhoods present opportunities for growth and change.

Opportunities

Location

Warren and Center Line are located in southern Macomb County, approximately eight miles from downtown Detroit and are within ten miles of many southeast Michigan destinations such as Royal Oak, Birmingham, Troy, St. Clair Shores and the Grosse Pointes.

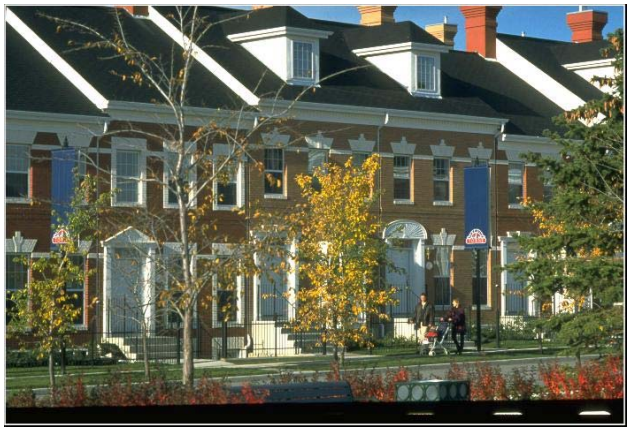
The General Motors Tech Center is located at Twelve Mile and Van Dyke providing a potential market base for businesses who wish to locate in the study area.

New Market Trends

Suburban corridors across the country are seeking ways to adapt to the growing market for mixed-use environments, a trend projected to continue through 2020. Van Dyke Avenue seems an attractive market for mixed-use redevelopment, especially options featuring urban town homes and pedestrian-oriented shops, cafes and coffeehouses. Its location, easy access,

and surrounding neighborhoods feed this potential. However, the current infrastructure is not conducive to attracting

these types of uses. To address the problem, Van Dyke Avenue's car-culture character should be transformed into a more attractive and friendlier place for pedestrians. A market study is a logical next step for the DDA and TIFA.



Public Transportation

Bus stops exist along the length of Van Dyke with transfer stops for major east-west connector routes. The availability of public transit is an asset for the district. The Cities should coordinate with the SMART bus system to upgrade the shelter as well as provide amenities such as trash receptacles and enhanced paving. Such investment is an important visual and social component.

Existing Businesses

Despite the need to address its problems, a number of businesses have long-standing reputations and loyal customers. Some owners are expanding and improving their businesses. These are positive signs that Van Dyke has the potential to initiate change. Infill projects, aimed at adding amenities identifying and highlighting unique attributes of Van Dyke can help recast the corridor's image.

Constraints

Property Configuration

Many of the properties abutting Van Dyke are not deep. Lots with minimal frontage and relatively modest depths of 100 to 120 feet are common. This shallow configuration limits rear expansion opportunities and how the land can be used. Although finite specifications for lot depth do not occur, many modest sized retailers are comfortable with 200 feet to accommodate parking and landscaping. However, case studies are showing that businesses are increasingly willing to modify floor and site plan designs to allow for shallower depths found in most mature communities.

Noise, Dust and Litter

Auto and truck traffic creates a significant amount of noise, dust and litter along Van Dyke especially when compared to nearby residential streets. The many auto repair businesses add to these negative environmental impacts making Van Dyke less desirable for housing.

Unfavorable pedestrian qualities

The removal of on-street parking in the 1970's eliminated the safety buffer zone created by parked vehicles. As such, portions of Van Dyke are not well suited for or used by pedestrians. It is often impractical for nearby residents to walk to the shops; customers are forced to get into their cars and park each time they make a visit. The lack of effective pedestrian amenities along Van Dyke Avenue hampers goals for creating an attractive and friendly commercial environment.

Parking

Off-street parking lots are not standardized in location and design; parking is squeezed in wherever possible and commercial businesses often share alleyways with single-family homes. Attempts to expand across an alley to accommodate parking or building expansion often meet neighborhood resistance.

Building Age

Older buildings show signs of wear. Some retain their original use, but many have been recycled or converted to a series of uses over time. They often exhibit remnant awnings, signs, and outdated modifications like false mansard roofs. Original display windows and welcoming front doors have been removed and blocked up. Many buildings along Van Dyke exhibit this scale and character, resulting in repetitive "sameness" when driving the length of the corridor.

Chapter 4: Alternative Analysis

Alternative Analysis

- *Potential Redevelopment Areas*
- *Road Narrowing*
- *Future Traffic Growth*
- *Future Development*
- *Future Roadway Scenarios*
  - *Existing Geometrics*
  - *Alternative Lane Configurations*
  - *Analysis Comparison*

Potential Redevelopment Areas

Van Dyke Avenue has several potential redevelopment areas. These opportunities can help to intensify and mix the land use pattern for a more vibrant district. Suggested areas are described below and also displayed on the following Development Opportunities (Figures 5, 6, and 7).

Redevelopment Area 1:
West side of Van Dyke, north of Eight Mile

- Consolidate vacant lots to provide an opportunity for a major redevelopment project.
- Historic Baseline Feed Store and refurbished mixed-use buildings are a catalyst.

Redevelopment Area 2:
Toepfer "Village"

- Burnette Public Library and Huntington Bank provide anchors for an urban village.
- Pursue redevelopment of vacant buildings into higher density mixed-use development.
- Continue private building rehabilitation.
- Implement tenant recruitment strategy.
- Enhanced crosswalk at traffic signal.

- Figure 5

- Figure 6

- Figure 7

Redevelopment Area 3:
Parcels west side of Van Dyke, north of Nine Mile

- Large consolidated area of vacant property.
- Currently owned by Warren T.I.F.A.

Redevelopment Area 4:
East side of Van Dyke at Stephens Avenue

- Combine vacant and underutilized parcels to create an urban village.
- Pursue the redevelopment of the Balkan Hall property into a higher mixed-use development, creating a major catalyst for activity.

Redevelopment Area 5:
Ten Mile Road to Engleman Avenue

- Visually and functionally coordinate streetscapes, crosswalks, signage and amenities.
- Build upon strong pedestrian use. Strengthen pedestrian connections between senior housing and shopping facilities
- Improve landscaping on all properties. Develop landscape design guidelines. Encourage property owners to participate in an overall landscape plan.

Development Sites Not Within Defined Redevelopment Areas

- These segments include large stretches of built-up blocks outside of the five defined redevelopment areas. Development of these segments is anticipated to be on a modest scale and pursued on a case-by-case basis. Façade and site features should follow design guidelines as promoted by this study.

Traffic Growth

Road Narrowing

At the outset of the project, the cities of Center Line and Warren wanted to determine if a lane reduction along Van Dyke Avenue in the study area is feasible.

The road system in most of the metro Detroit area incorporates a grid network; parallel roadways exist to allow for alternate travel routes and “reliever” routes. This grid network allows drivers to easily seek an alternative route if they begin to experience

extensive delays. A lane reduction along Van Dyke Avenue will reduce the capacity of the corridor. It is expected that a portion of the drivers will seek alternative routes to avoid the increased delays resulting from a reduction in capacity.

Historical Traffic Growth

According to Average Annual Daily Traffic (AADT) volumes provided by MDOT, the traffic volumes on Van Dyke Avenue between Eight Mile Road and I-696 have decreased since 1996. Table 7, below, shows the AADT volumes provided by MDOT.

Table 7 – AADT Volumes

	8 Mile to Nine Mile	9 Mile to I-696
1996	21,700	34,200
1997	20,800	34,400
1998	20,300	33,500
1999	20,200	33,300
2000	21,900	33,400
2002	21,300	30,800

Typically, projections of future traffic volumes for a specific study area include two components: traffic generated specifically by new developments within the study area; and background traffic, which is the increase in existing traffic volumes due to growth outside of the study area.

A background traffic growth rate is normally developed based on historical traffic volumes. In the instance of the Van Dyke Avenue corridor, historical traffic volumes indicate a decrease in traffic over recent years, which would equate to a negative background growth rate (a decrease from existing traffic volumes). However, to provide a conservative estimate of future traffic volumes, the background growth rate for the study area corridor was set at 0% (representing no traffic increases or decreases due to factors outside of the specific study area) for all analysis scenarios.

Future Development

The redevelopment scenarios described at the beginning of this chapter reflect what can reasonably be expected to occur within the next 15 years.

The new trips (projected traffic) generated by the proposed redevelopment areas were estimated based on information in the most recent edition (6th Edition) of *Trip Generation* published by the Institute of Transportation Engineers. The weekday AM and PM peak hours were analyzed to determine the additional traffic on the study area corridor associated with the proposed redevelopment areas when traffic on the adjacent street is typically at the highest point of the day. The redevelopment areas are expected to generate 107 new trips during a typical weekday A.M. peak hour, and 656 new trips during a typical weekday P.M. peak hour. The results of the trip generation analysis for the redevelopment areas are presented in Tables 8 through 11.

Not all of the traffic generated by the proposed redevelopment areas will be new traffic added onto the study area corridor. With most retail facilities, a significant amount of the site-generated traffic is considered “pass-by” traffic. Pass-by trips represent vehicles already on Van Dyke Avenue, which interrupt their normal route to visit the retail site. Pass-by trips are normally expressed as a percentage of trips generated by the new development. These pass-by rates are published in the Institute of Transportation Engineer’s *Trip Generation, Handbook (October 1998)*.

To account for traffic already on Van Dyke Avenue that will visit the new developments

along the corridor, the number of "pass-by" trips must be estimated. *Trip Generation Handbook* suggests a 34% PM peak hour pass-by rate for general retail uses. With the application of the pass-by trip factors, traffic generated by the new developments along Van Dyke Avenue can be classified as "pass-by" (already on Van Dyke Avenue) and "new" (coming from other areas in Warren and Center Line) trips. The proposed redevelopment areas (combined) are expected to generate 107 total trips during the AM peak hour and 994 total trips during the PM peak hour. However, only 656 trips during the PM peak hour will be new traffic not currently traveling on Van Dyke Avenue, whose primary purpose is to visit locations in the redeveloped areas.

The generated traffic volumes were distributed throughout the corridor and at each intersection based on the existing turning movement percentages. The generated trips have been assigned to the surrounding roadway system according to the trip distribution model.

Future Traffic Volumes

The existing traffic volumes (representing a 0% growth rate) and the traffic generated by the targeted redevelopment areas were combined to develop complete future traffic volume projections. These projections represent traffic volumes along the Van Dyke Avenue corridor after the targeted areas have experienced complete redevelopment (within 15 years). The projected traffic volumes are summarized in Figures 8A through 8J.

Future Traffic Volumes/Existing Road Geometry Analysis Scenario

A level of service analysis for future (projected) traffic volumes was performed along the entire corridor using the Synchro and SimTraffic model developed for the existing conditions analysis.

The future (projected) traffic volumes include existing traffic volumes plus traffic generated by new developments in the targeted redevelopment areas. Existing lane and geometric conditions were included in this analysis scenario.

To optimize pedestrian and traffic flow along the corridor, several improvements are recommended along the corridor, and have been included in the level of service analysis. The improvements include:

- A change in signal cycle length in the PM peak hour from 120 seconds to 100 seconds (except at Eight Mile Road).
- Timing of signals along corridor to promote 35-mph speed limit.
- Re-calculation of yellow and all-red signal intervals, based on MDOT's Clearance Interval requirements.
- Timing optimization at each signalized intersection.

Re-calculation of pedestrian crossing indications based at signalized intersections, assuming a walk speed of 4 feet per second (3.5 feet per second at Ten Mile Road).

All of these improvements have been included in the level of service analysis, and are described in more detail in *Chapter 5: Recommendations for Revitalizing the Van Dyke Corridor*.

The results of this analysis are represented in Tables 12 and 13.

Table 8
Trip Generation for Redevelopment Area 1

Land Use	Land Use Code	Units	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Retail	820	14,000 sf	9	5	14	82	89	171
Pass-by Trips (34%)						23	25	58
TOTAL NEW TRIPS			**5**	**14**	**19**	**59**	**64**	**113**

Table 9
Trip Generation for Redevelopment Area 2 (Toepfer Village)

Land Use	Land Use Code	Units	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Retail	820	15,000 sf	9	6	15	86	93	179
Pass-by Trips (34%)						29	32	61
TOTAL NEW TRIPS			**9**	**6**	**15**	**57**	**61**	**118**

Table 10
Trip Generation for Redevelopment Area 3

Land Use	Land Use Code	Units	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Retail	820	33,330 sf	21	13	34	152	164	316
Pass-by Trips (34%)						52	55	107
TOTAL NEW TRIPS			**21**	**13**	**34**	**100**	**109**	**209**

Table 11
Trip Generation for Redevelopment Area 4

Land Use	Land Use Code	Units	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Retail	820	37,620 sf	24	15	39	157	171	328
Pass-by Trips (34%)						54	58	112
TOTAL NEW TRIPS			**24**	**15**	**39**	**103**	**113**	**216**

Figure 8A

Figure 8B

Figure 8C

Figure 8D

Figure 8E

Figure 8F

Figure 8G

Figure 8H

Figure 8I

Figure 8J

Table 12 – Southern Corridor Level of Service
Future Volumes, 7-Lane Cross-Section

Approach	AM		PM	
	Delay	LOS	Delay	LOS
8 Mile (EB) and Van Dyke				
Northbound	16.6	B	19.0	B
Southbound	1.5	A	1.5	A
Eastbound	14.0	B	20.0	C
Overall	**12.1**	**B**	**17.5**	**B**
8 Mile (WB) and Van Dyke				
Northbound	1.6	A	1.5	A
Southbound	18.9	B	19.4	B
Westbound	26.2	C	16.9	B
Overall	**22.8**	**C**	**15.4**	**B**
Westminster and Van Dyke				
Northbound	6.4	A	7.3	A
Southbound	1.6	A	1.1	A
Eastbound	36.2	D	36.4	D
Westbound	36.1	D	36.0	D
Overall	**4.4**	**A**	**5.2**	**A**
Toepfer and Van Dyke				
Northbound	5.9	A	2.3	A
Southbound	1.7	A	7.6	A
Eastbound	34.9	C	36.3	D
Westbound	37.1	D	38.2	D
Overall	**6.7**	**A**	**7.6**	**A**
Hupp and Van Dyke				
Northbound	6.5	A	6.2	A
Southbound	1.4	A	2.8	A
Eastbound	37.8	D	37.8	D
Westbound	37.8	D	37.8	D
Overall	**6.1**	**A**	**6.3**	**A**

Table 13 – Northern Corridor Level of Service
Future Volumes, 7-Lane Cross-Section

Approach	AM		PM	
	Delay	LOS	Delay	LOS
9 Mile and Van Dyke				
Northbound	17.7	B	20.9	C
Southbound	12.1	B	21.2	C
Eastbound	40.2	D	69.2	E
Westbound	41.0	D	38.1	D
Overall	**24.0**	**C**	**32.4**	**C**
Stephens and Van Dyke				
Northbound	7.6	A	8.3	A
Southbound	3.7	A	2.7	A
Eastbound	34.1	C	35.8	D
Westbound	42.5	D	40.0	D
Overall	**9.4**	**A**	**8.7**	**A**
10 Mile and Van Dyke				
Northbound	11.3	B	19.2	B
Southbound	11.9	B	23.9	C
Eastbound	37.7	D	42.7	D
Westbound	45.3	D	39.0	D
Overall	**24.1**	**C**	**29.1**	**C**
Engleman and Van Dyke				
Northbound	6.5	A	8.3	A
Southbound	5.6	A	13.8	B
Eastbound	29.6	C	39.8	D
Westbound	32.8	C	35.8	D
Overall	**8.3**	**A**	**14.4**	**B**
Bernice and Van Dyke				
Northbound	1.7	A	6.4	A
Southbound	6.7	A	7.9	A
Eastbound	34.5	C	54.8	D
Westbound	35.4	D	35.2	D
Overall	**6.5**	**A**	**12.1**	**B**
EB Service Drive and Van Dyke				
Northbound	21.3	C	13.3	B
Southbound	10.1	B	9.9	A
Eastbound	30.6	C	39.5	D
Overall	**21.9**	**C**	**23.4**	**C**
WB Service Drive and Van Dyke				
Northbound	11.5	B	22.4	C
Southbound	34.6	C	64.5	E
Westbound	83.1	F	24.3	C
Overall	**46.7**	**D**	**41.9**	**D**

Future Traffic Volumes/Alternative Lane Configuration Scenario

An alternative analysis scenario was developed using future (projected) traffic volumes and a lane reduction south of Ten Mile Road to Eight Mile Road. This lane reduction could represent either a roadway narrowing to provide wider building setbacks, or the provision of on-street parking.

This analysis was also conducted based on the Synchro and SimTraffic models developed for the existing conditions analysis. The model was modified using the future (projected) traffic volumes and a five-lane cross section on Van Dyke Avenue south of Ten Mile Road.

In addition to assuming five travel lanes on Van Dyke Avenue south of Ten Mile Road, improvements similar to those included in the Future Traffic Volumes/Existing Road Geometry Analysis Scenario were evaluated. These improvements include:

- A change in signal cycle length in the PM peak hour from 120 seconds to 100 seconds (except at Eight Mile Road).
- Timing of signals along corridor to promote 35-mph speed limit.
- Re-calculation of yellow and all-red signal intervals, based on MDOT's Clearance Interval requirements.
- Timing optimization at each signalized intersection.

Effects on Traffic Volumes

Whenever there is a significant change in the geometry of a roadway, there is potential for a shift in traffic patterns. In some instances, reducing the capacity of a roadway could result in the reduction of traffic volumes as drivers look for new routes; this is especially evident in areas with high traffic congestion. However, the results of the existing conditions analysis (Chapter 2) indicate that the study area corridor does not experience.

The Southeast Michigan Council of Governments (SEMCOG) has developed a travel demand forecasting model for the entire metropolitan Detroit area. This model can be used to forecast differences in traffic patterns due to changes in the road network, land uses, and population. SEMCOG assisted with the corridor study by providing a basic model run comparison. SEMCOG provided base year traffic volumes, and then re-ran the base model assuming only a five-lane cross section for Van Dyke Avenue in the study area. The results of these two model runs provide indications of future traffic patterns with a lane reduction along Van Dyke Avenue. Table 14, below, summarizes the model results.

Table 14 – Five Lane Cross-Section Volume Reduction

	8 Mile to Nine Mile	9 Mile to 10 Mile	10 Mile to I-696
Southbound	7%	6%	8%
Northbound	13%	12%	10%

There are some key assumptions of these results that should be presented:

- This model run is for the "base" year only for comparative purposes, and does not include validation of existing land uses and traffic volumes.
- Some of this future traffic volume reduction is likely due to the downward trend of traffic volumes described by the historical traffic data (Table 8).

- The model run assumes 5 lanes the whole length of the corridor (between Eight Mile Road and Ten Mile Road). The five-lane scenario analyzed as part of this study has Van Dyke Avenue with seven lanes north of Ten Mile Road, and five lanes between south of Ten Mile Road.

To provide a more conservative estimate of traffic volumes and to ensure adequate capacity is available for the projected traffic volumes, traffic volume decreases due to lane reductions were not included, even though SEMCOG data indicates a decrease in volumes may be experienced.

The results of the analysis for the five-lane (south of Ten Mile Road) scenario are represented below in Tables 15 and 16.

Analysis Comparison

Future Volumes vs. Existing Volumes
With the recommended improvements and future projected traffic volumes, level of service analysis results indicate that most intersections along the corridor will operate as well as under existing conditions.

The intersection of Van Dyke Avenue and Eight Mile Road would show a slight degradation in operation with the projected traffic volumes. During the morning and evening peak hour, the overall intersection level of service at eastbound Eight Mile Road would drop from Level of Service A to Level of Service B. The level of service at westbound Eight Mile Road would drop from Level of Service B to Level of Service C during the morning peak hour, and from Level of Service A in the evening peak hour to Level of Service B.

The intersection of Van Dyke Avenue and Ten Mile Road would actually show an improvement in traffic operations with the projected volumes and recommended improvements. Under existing conditions, the intersection operates at an overall Level of Service D during the morning and evening peak hours. With the projected traffic volumes and recommended improvements, the intersection would operate at an overall Level of Service C during the AM and PM peak hours.

Future Volumes: Five Lanes (south of Ten Mile Road) vs. Seven Lanes
While the reduction of a travel lane in each direction along Van Dyke Avenue would reduce available capacity, the level of service analysis results indicate that overall traffic operation along the corridor would not experience a significant degradation, assuming the recommended improvements are implemented. In some cases, the signal timings at individual intersections could be optimized further, resulting in improved level of services over the seven-lane, projected traffic volume scenario.

The eastbound leg of Eight Mile Road at Van Dyke Avenue would decrease from a Level of Service B to a Level of Service C during the evening peak hour. The intersection of Stephens Avenue and Van Dyke Avenue would also experience a decrease in level of service, from a Level of Service A to a Level of Service B during both the morning and evening peak hours. The intersection of Bernice Road and Van Dyke Avenue would decrease from Level of Service A in the morning peak hour to Level of Service B.

Both I-696 service drives would show an improvement. The eastbound service drive would improve from an overall Level of

Service C to a Level of Service B during the morning peak hour. The westbound service drive would improve from an overall Level of Service D to a Level of Service C during the evening peak hour.

Table 15 – Southern Corridor Level of Service Future Volumes, 5-Lanes S/O 10 Mile

Approach	AM		PM	
	Delay	LOS	Delay	LOS
8 Mile (EB) and Van Dyke				
Northbound	18.4	B	28.3	C
Southbound	1.8	A	0.9	A
Eastbound	14.0	B	23.5	C
Overall	**12.5**	**B**	**21.6**	**C**
8 Mile (WB) and Van Dyke				
Northbound	1.8	A	1.8	A
Southbound	24.4	C	18.6	B
Westbound	26.2	C	20.1	C
Overall	**23.8**	**C**	**17.2**	**B**
Westminster and Van Dyke				
Northbound	7.8	A	3.8	A
Southbound	1.4	A	1.4	A
Eastbound	34.6	D	30.7	C
Westbound	34.5	D	30.3	C
Overall	**4.8**	**A**	**3.4**	**A**
Toepfer and Van Dyke				
Northbound	12.6	B	2.5	A
Southbound	1.9	A	8.8	A
Eastbound	28.7	C	33.0	C
Westbound	30.3	C	35.2	D
Overall	**9.3**	**A**	**7.9**	**A**
Hupp and Van Dyke				
Northbound	7.7	A	8.1	A
Southbound	1.2	A	6.0	A
Eastbound	31.2	C	26.1	C
Westbound	31.2	C	26.2	C
Overall	**6.0**	**A**	**8.1**	**A**

Table 16 – Northern Corridor Level of Service Future Volumes, 5-Lanes S/O 10 Mile

Approach	AM		PM	
	Delay	LOS	Delay	LOS
9 Mile and Van Dyke				
Northbound	16.7	B	34.4	C
Southbound	12.1	B	19.0	B
Eastbound	43.1	D	35.4	D
Westbound	47.1	D	31.2	C
Overall	**25.6**	**C**	**29.4**	**C**
Stephens and Van Dyke				
Northbound	10.1	B	9.4	A
Southbound	7.4	A	7.4	A
Eastbound	30.9	C	27.2	C
Westbound	37.8	D	30.3	C
Overall	**11.7**	**B**	**10.4**	**B**
10 Mile and Van Dyke				
Northbound	12.1	B	32.4	C
Southbound	12.2	B	32.4	C
Eastbound	41.0	D	48.2	D
Westbound	53.5	D	39.2	D
Overall	**27.2**	**C**	**34.9**	**C**
Engleman and Van Dyke				
Northbound	2.9	A	17.5	B
Southbound	5.0	A	15.1	B
Eastbound	36.3	D	46.6	D
Westbound	41.0	D	38.3	D
Overall	**7.1**	**A**	**19.5**	**B**
Bernice and Van Dyke				
Northbound	1.9	A	19.8	B
Southbound	12.2	B	8.8	A
Eastbound	39.6	D	39.2	D
Westbound	41.0	D	26.8	C
Overall	**10.1**	**B**	**16.7**	**B**
EB Service Drive and Van Dyke				
Northbound	11.2	B	24.0	C
Southbound	12.2	B	16.2	B
Eastbound	28.5	C	21.6	C
Overall	**18.8**	**B**	**21.3**	**C**
WB Service Drive and Van Dyke				
Northbound	24.0	C	6.5	A
Southbound	34.6	C	32.7	C
Westbound	83.1	F	28.3	C
Overall	**49.9**	**D**	**22.2**	**C**

Chapter 5: Recommendations for Revitalizing the Van Dyke Corridor

Recommendations for Revitalizing the Van Dyke Corridor

- *Transportation Improvements*
- *Parking Improvements*
- *Pedestrian Enhancements*
- *Planning Initiatives*
- *Public Involvement Recommendations*
- *Private Improvement Recommendations*
- *Management Framework Recommendations*
- *Zoning Recommendations*

Goals of the Plan

Only an orchestrated effort between public (City of Warren, City of Center Line, and MDOT) and private stakeholders (Residents, business owners, and property owners) will successfully revitalize Van Dyke.

Transportation Improvements

Signal Cycle Length Optimizations

The signals along the Van Dyke Avenue corridor within the study area currently operate with a cycle length of 120 seconds, except at Eight Mile Road. The Eight Mile Road signals operate at an 80-second cycle length.

The Synchro and SimTraffic models were used to optimize signal timings along the entire length of the study area corridor. The analysis results indicate that during the evening peak hour, the corridor would operate more efficiently with a reduced cycle length. A 100-second cycle length during the evening peak hour for all signals between Eight Mile Road and I-696 results in optimal operating characteristics for the projected traffic volumes. To allow for continued coordination of the Eight Mile Road corridor, the Eight Mile Road signals should be left at an 80-second cycle length.

Updated Clearance Intervals

All signals along the Van Dyke Avenue corridor should be updated to include the most recent MDOT clearance interval guidelines and standards.

Speed Restrictions through Signal Progression

An effective means of controlling vehicle speeds along an arterial corridor is to time the signals so that orderly vehicle progression can be maintained at the posted speed limit. The signals could be

coordinated so that vehicles traveling significantly faster or slower than the posted speed limit would face increasing delays by being forced to stop at red light indications.

For the study area corridor, all of the traffic control signals between I-696 and Eight Mile Road can be coordinated to optimize corridor vehicle progression for 35 mph. An analysis using the Synchro and SimTraffic models indicates that overall vehicle delays and travel times would not be adversely impacted by implementing coordinated signal timings. The analysis results detailed in Chapter 3 for the projected traffic conditions include timing the corridor for 35 mph between I-696 and Eight Mile Road.

Van Dyke Avenue & Nine Mile Road

Crash data indicates a high number of crashes at the Nine Mile Road intersection. Since this study examines only crash totals along the corridor and does not provide full individual location crash analyses, the exact cause of these crashes have not been investigated in detail cannot be determined. However, there are some indicators as to what may contribute to this crash history. The driveways for a fast food restaurant on the northeast corner of the intersection are located very close to Nine Mile Road on Van Dyke Avenue. Suggested driveway spacing management guidelines published by MDOT indicate that a minimum of 230 feet should be provided between a cross street and driveways on a 35-mph speed limit roadway such as Van Dyke Avenue.

The lane striping on the westbound approach of Nine Mile Road may also contribute to the crash totals at the intersection. The right lane on the westbound Nine Mile Road approach is striped as a “right turn only” lane, and is controlled with a right turn green arrow. Right-turning vehicles are guided onto the right lane of Van Dyke Avenue. However, this lane is a right-turn only lane into the fast food restaurant, and vehicles must immediately merge left one more lane. This maneuver represents a potential safety hazard, and could be a contributing factor in the relatively high number of vehicle crashes.

A complete crash study for the specific location of Van Dyke Avenue and Nine Mile Road should be conducted. The cities should work with MDOT and the Macomb County Road Commission on implementing recommendations from the study.

Van Dyke Avenue & Eleven Mile Road

Traffic operations operate poorly in the area of Van Dyke Avenue and I-696. Table 6 indicates that the eastbound service drive currently operates at Level of Service C during the AM and PM peak hours. The westbound service drive currently operates at level of service D during the AM and PM peak hours, with the westbound approach at level of service F during the AM peak hour and the southbound approach at level of service E during the PM peak hour. With any additional traffic related to future corridor redevelopment, traffic operation is expected to continue to operate at this poor level or worse.

Analysis of existing traffic conditions using the SimTraffic model indicate that the crossover over I-696 east of Van Dyke Avenue, servicing eastbound-to-westbound traffic on the service drives, is a “choke point” in the area. The one lane provided to handle traffic appears to be insufficient, and causes traffic back-ups through Van Dyke Avenue.

A second lane provided for the traffic on the crossover would alleviate much of this congestion. However, the existing bridge is not wide enough to accommodate a second lane; a complete widening over I-696 would be necessary to expand the bridge to two lanes.

Parking Improvements

Project stakeholders have indicated that additional parking along the study area corridor would increase the vitality of existing business and attract additional businesses. Several opportunities exist to provide additional parking along the Van Dyke Avenue corridor.

Side Street Parking

Along most of the study area corridor, especially to the west of Van Dyke Avenue, a side street/alleyway runs parallel to Van Dyke Avenue, approximately 120 feet off of Van Dyke Avenue. This configuration allows for the adoption of a parking strategy that does not significantly affect the traffic operations or geometrics of Van Dyke Avenue. At select locations, pairs of cross streets could be converted to one-way pairs. Angled, curbside parking could be provided on these streets, allowing for an increased parking density than would be permitted under the existing geometric layouts. The photos below provide illustrations of these side street concepts.

The following are locations that have been identified as potential candidates for implementing this side-street parking strategy:

(South of Ten Mile Road)

- State Park St. / Sterling St.
- Superior Ave./Standard Ave.

Shared Parking Agreements

Based on the Table 9, a significant number of parking spaces are available along the entire length of the study area. However, not all of these spaces are available for all vehicles with destinations along the corridor; a significant part of the parking areas are for specific developments and land uses.

Agreements between businesses to share parking spaces and areas could increase the availability of parking, and reduce the need for additional spaces. While this will not address all of the parking issues identified by business owners along the corridor, shared parking areas could increase the viability of local businesses, and make it easier for customers to get to and around the study area.

Curbside Parking on Van Dyke Avenue

The addition of curbside parking would not be feasible north of Ten Mile Road. The traffic volumes between Ten Mile Road and I-696 are heavy enough that any reduction in capacity could cause noticeable operational problems.

Curbside parking may be a feasible option at certain locations south of Ten Mile Road. Curbside parking may work out best in areas along the study area corridor that have been identified for potential redevelopment (See Chapter 3). The parking would complement the redevelopment of local businesses and residential areas.

The removal of a travel lane in each direction south of Ten Mile Road would reduce the capacity of Van Dyke Avenue. However, it is not expected that this reduction in capacity at select locations south of Ten Mile Road would have a major impact on traffic operations. The future alternative analysis in Chapter 3 includes the reduction in capacity due to removing a travel lane in each direction. These analysis results indicate that traffic operations along Van Dyke Avenue would not be adversely impacted by the capacity reduction.

Early preliminary analysis indicates that approximately 290 vehicles can fit "curbside" between Ten Mile Road and Eight Mile Road; approximately 145 on each side of the roadway. It is expected that there could be up to a 20% reduction in these numbers based on specific locations of fire hydrants. The potential parking space totals also do not take into account land uses surrounding these areas; it is likely that portions of these parking areas would be underutilized based on surrounding land uses.

Curbside parking could affect safety in two ways. Vehicles parked along curbsides would present a hazard for pedestrians crossing Van Dyke Avenue if they do not cross at marked locations. Vehicles maneuvering into and out of curbside parking spaces would also present additional conflict points for vehicular traffic. Providing parking "bump-outs" at each block would protect parked vehicles (and people entering and exiting their vehicles) from Van Dyke Avenue traffic.

In areas where curbside parking along Van Dyke Avenue may be provided, sidewalk bump outs will be installed at each cross street location. In addition to protecting parked vehicles from traffic along Van Dyke Avenue, the "bump outs" enhance pedestrian safety by shortening the distance needed to cross the arterial road.

Parking Demand Study

Before any decision is made as to whether to pursue curbside parking options along Van Dyke Avenue, a detailed parking study should be completed. This study would address how many parking spaces are needed by businesses along the corridor, where additional parking spaces should be located in relation to businesses, approximate walking times between parking spaces and businesses, occupancy rates of existing parking facilities, and estimates of future parking demand.

Pedestrian Enhancements

Revitalization of the Van Dyke Avenue corridor is dependent on being able to attract and protect pedestrians in the area. Several improvements would help in ensuring the safety of pedestrians in the area and create a more "pedestrian friendly" atmosphere.

Intersection Crossing Enhancements

Improvements at signalized intersections could provide for increased safety of pedestrians while improving general corridor aesthetics. These improvements would not adversely impact capacity or traffic operations.

Textured crosswalks, or crosswalks made with concrete which contrasts with the asphalt roadway surface, would increase the visibility of the pedestrian crossing areas. Intersections without pedestrian signal equipment can be upgraded to include pedestrian signal indications. Traffic signal support equipment would be converted to mast-arm designs. The photos below provide examples of intersection crossing enhancements.

All pedestrian crossing signals should be programmed so that "Walk" indications come up every cycle. This will ensure adequate pedestrian walking times will always be provided, every cycle length.

The time allotted for the "Walk" signal indication for crossing Van Dyke Avenue at Ten Mile Road should be increased to accommodate the high number of elderly people crossing at this location.

Pedestrian Crossing Time Updates

Pedestrian crossings between both sides of Van Dyke Avenue can be enhanced by the update of "Walk" and "Don't Walk" times. Calculating these times using a pedestrian walking speed of 4 feet per second will ensure enough crossing time is available to encourage pedestrians to cross Van Dyke Avenue. The pedestrian crossing timings at Ten Mile Road should be calculated using a pedestrian walk time of 3.5 feet per second, to accommodate the large number of elderly pedestrians at this location.

Pedestrian Refuge Islands

Van Dyke Avenue, with at least seven lanes (three lanes in each direction and a center two-way left turn lane), presents a significant obstacle for crossing pedestrians. Facilities in between these signals, near centers of potential high pedestrian activity, should be provided to assist pedestrians in crossing Van Dyke Avenue. The photos below provide examples of pedestrian refuge islands.

To be a truly revitalized corridor, pedestrians should be encouraged to cross Van Dyke Avenue at locations other than signalized intersections. Pedestrian refuge islands installed at select unsignalized intersections along the corridor, such as south of Engleman Road and near Kaltz Street, would provide a "safe" haven for pedestrians crossing Van Dyke Avenue. A curbed island would be placed d be placed in the center left turn lane on Van Dyke Avenue at unsignalized intersections with low left turning volumes. Crosswalks would be provided on either side of the island to channelize pedestrian traffic. The photo below is en example of a pedestrian refuge island. With these islands installed, pedestrians would only need to cross three lanes of traffic at a time, rather than seven.

Planning Initiatives

Strengthen the Properties Fronting Van Dyke

Where possible, edge plantings can be combined with low walls to beautify properties along the corridor, soften the appearance of Van Dyke and establish visual continuity along the corridor. Small pockets of publicly-owned green space can be adopted by neighboring schools and businesses and developed into colorful, well-maintained flower gardens or parks. All property owners, private and public, should be encouraged by community leadership to maintain their properties so Van Dyke can become known as a clean, cared-for place to live and work.

Redevelop Blighted or Obsolete Buildings and Uses

The Warren T.I.F.A and Center Line D.D.A. should assemble unsightly, obsolete properties, eliminate inappropriate uses, assemble properties in fragmented ownership and replace them with compatible uses.

Enhance the Sociability of the Corridor

There are a variety of ways in which the sociability of Van Dyke can be enhanced. Stewardship by business owners can keep properties clean on an ongoing basis including, grounds maintenance, picking up litter, paint up/fix up, graffiti removal, and improve the appearance of store facades. Creating a pedestrian friendly environment by providing services that local residents want and need, rebuilding the sidewalks, providing better pedestrian lighting, adding parks and green space, making provisions for bicyclists and at businesses all help to create a hospitable environment along Van Dyke. It is also important to establish Van Dyke as a destination district within Macomb County. Recruiting new businesses attractive to local residents, pursuing grants and incentives to assist

new businesses, and promoting an awareness of Van Dyke Corridor using public art, welcome signs or gateway markers.

Off-Street Parking Standards

Appropriate parking standards are needed. When the number of required spaces exceeds the need, large areas of unused hard-surfaces result. This unused space could be a valuable resource for creating additional landscaping (less surface water runoff) or for adding building floor space (increased tax base). Where the number of spaces is less than the need, on-site congestion occurs resulting in patrons using adjacent neighborhoods.

Empty parking lots are noticeably evident along Van Dyke, especially on the west side. To validate the observations, national findings provided by the Institute of Transportation Engineers (ITE) are compared to the zoning requirements of Warren and Center Line. As shown in Table 17, the cities' requirements are more stringent in several commercial categories.

Access Management

Safety of vehicles, safety of pedestrians, and capacity improvements can all be improved through a comprehensive access management program along the study area corridor. An access management program can improve traffic and pedestrian safety, preserve existing road capacity, and help reduce traffic congestion. Access management tools include improving internal site design to limit the number of driveways needed for each land use or development, businesses sharing driveways and connecting parking areas, and providing rear access roads/alleyways (already prevalent along many areas of the corridor). An access management plan for the corridor would be a natural extension from this corridor study, and would include much of the information already collected.

Public Improvement Recommendations

Warren, Center Line, Macomb County and the State of Michigan can assist in redefining the corridor by investing in public improvements. Improvements can be more than pavement and landscaping. It can involve siting libraries, police stations and other similar facilities on the street. Such investment visually displays a commitment that the public sector is actively partnered with the businesses and residents

Capital improvements such as installation of new sidewalk or streetscape design provide a significant image change. A streetscape design uses many urban design tools including reference points, gateways, streetscape and directional signage. The way these features are used should be determined through a well thought out design process.

Reference Points

A reference point is an easily noticed landmark orienting a person within a community, district or corridor. It can be a building, entranceway, plaza, park, public art or special pavement treatment. Reference points can separate a journey into a sequence of events and a gauge of time and distance. Most people derive a sense of comfort from understanding where they are. These areas can be distinguished with special paving, vertical features, a boulevard, and signage as illustrated on the following pages. For Van Dyke, the Ten Mile intersection provides a good opportunity with its mid-rise apartment building, several shopping centers and St. Clement Church. The distinction of these developments stands out providing a visual orientation. Other reference points can be created through street treatments at mile road intersections or the development of buildings with greater scale, street presence and architectural distinction.

Gateways
Gateways are urban design elements that transition residents and visitors in the area. They announce entry and/or mark milestones and introduce the character and theme of a place or district. They should be consistent and appropriately scaled to make the corridor more cohesive. Primary entries at Eight Mile Road and I-696 should be defined. Nine and Ten Mile Roads are identified in the plan as secondary entrances.

Landscaping
Healthy, tree-lined streets create a memorable drive and enhance the pedestrian experience. A functional streetscape plan improves perceptions, creates views and provides useful public space. Consistent landscape features create a pleasant, organized appearance and "soften" the visual impact of large expanses of hard surfaces.

The current tree-planting program is not effective. Tree planting and landscaping may need to occur outside the right-of-way due to the constricted sidewalk width and the extensive amount of truck and high speed traffic.

Public use areas such as small parks and plazas can be designed strategically into the land use pattern. These features serve as "outdoor rooms" in the district, offering places for displays, programmed activities and informal socialization. The cities can encourage outdoor spaces as part of the approval process for large development proposals.

Amenities
Site amenities contribute to creating a hierarchy of space. They guide pedestrian movement and delineate public and private space. Benches, sitting areas and bicycle racks are examples of elements commonly integrated into a streetscape design.

Lighting
Streetlights are a prime consideration when creating a theme or "brand" for a district. They promote activity, establish a safe pedestrian environment and provide nighttime orientation. Lighting should be appropriate for each district, yet compatible with the palette of street furnishings throughout the corridor.

Sidewalks
Van Dyke's sidewalks meet minimum standards for dimensional width in a commercial district. However the lack of a safety buffer between moving traffic and pedestrians compromises the use of the walks. Based upon the findings of the analysis in Chapter 3, a travel lane from each side of Van Dyke Avenue can be "captured", and used for additional sidewalk and landscaping features.

Signing
Clear directional signing within the right-of-way is vital to the success of businesses. Public signage can include wayfinding systems and improved street identification markers at signaled intersections. Illuminated street signs and the use of mast arms at key intersections can assist with understanding one's location.

Local Street Modifications
Local street closures or restrictions can be used to reduce the excessive number of curb cuts, add parking spaces, visually and functionally improve business connections, and provide public space. Although closing streets offers potential to improve Van Dyke, they must be selective to retain a strong urban street grid with multiple connection points.

Private Improvement Recommendations

Private improvements in building and site design are equally important to public investment, however, sound decisions must be made. Development guidelines for building and site design provide a method for achieving proper context. They reinforce and strengthen the character of the street to encourage investment and create an interesting, attractive and easily understandable environment. Guidelines provide standards for architectural features, building location, site and landscape design, access, off-street parking, signage and awnings. They provide an opportunity for individual freedom of expression yet integrates the corridor as a whole. Guidelines can stand alone or be attached to an overlay zoning district.

Architectural Design

Architectural design standards can improve the appearance of the corridor. Standard door, window and sign locations often anticipated by motorists minimize distraction. Attention to detail and easily maintained, high-quality materials such as brick convey a message of good service and products. The use of ground floor display windows and identifiable entrances create street interest. Facades that incorporate uniform sign mounting areas foster improved legibility. Figures 9 and 10 graphically portray appropriate façade designs.

Figure 9

St. Vincent DePaul

Building Location

Uniform street edges are important organizing elements. Building location is the prime element when creating a street edge. Unfortunately, setbacks in conventional zoning guide development into a building area envelope. This means that buildings do not need to follow the same setback line. The lack of uniformity does not send a clear visual message to customers and visitors. This plan recommends a front "build-to" line to preserve the street edge continuity.

Signs and Awnings

Design, content and location guidelines for sign and awnings can organize information into clear and concise formats. Displays of sign colors, styles, lighting and locations currently compete for attention when viewed as a whole. Awnings function as signage throughout the corridor contributing to information clutter.

Limiting the use of awning information is highly recommended. These elements were historically intended to shield pedestrians from the weather and provide shade for a building's interior. Guidelines can assist with creating a visually clear environment rather than a collection of individual awnings.

Site Design and Landscaping

Proper use of landscaping and amenities for private development provide shade, block wind, soften expanses of parking surfaces, guide access, bridge voids between competing uses, transition and complement public streetscape improvements. Figure 11 graphically describes the intent of this section.

Parking Lot Design Guidelines

Management Framework Recommendations

Business Improvement District (BID)

A strong management entity, such as a Business Improvement District (BID), is one method to guide the revitalization of the Van Dyke Corridor over two jurisdictions. A BID can devote efforts to maintain a desirable retail mix, support existing businesses and encourage business expansion. It can sponsor events to keep customers in the district, provide advertising and promote programs to attract new consumers.

A Business Improvement District is a self-assessment program enabling business and property owners to pool financial resources for management, promotion and marketing the area where member businesses or properties are located. It serves to establish a permanent funding mechanism to perform tasks such as tenant recruitment, business retention, economic development, marketing, promotions, public relations and special events.

A BID works well in situations where community, civic and business organizations are willing to work together in sharing the responsibility of accomplishing the same goals and objectives. It is appropriate for communities focused on tenant recruitment, marketing, promotions and public relations as tools for economic development within a well-defined business area.

Formation of a BID

Municipalities may implement a BID by adopting a resolution. The resolution must contain the geographic boundaries of the district, number of board members, different classes of property owners in the district, and the class of businesses or property owners, if any, who are projected to pay more than 50% of the special assessment levied. An assessment based on overall square footage would be applied, and funding of activities would begin.

Advantages of a BID

- A BID can be multi-jurisdictional.
- More than one BID may be established in a city.
- BID assessments are based on a parcel/building's square footage resulting in a consistent assessment formula. Because the BID's income is predictable, major projects can begin immediately.
- Reporting is done through an annual report and audit to City Council and the membership, without involvement of the State.
- These districts offer the ability to spread the cost of development of public improvements among all participants.

Disadvantages of a BID

- Tax increment financing is prohibited.

Zoning Recommendations

Based on the existing land use pattern, zoning pattern and urban design principles for revitalizing a business strip, a number of changes should be made to the current ordinances. A new set of tools is needed to achieve the redevelopment goals as iterated through the stakeholder work sessions. The recommendations offered below provide for the long-range vision.

Issue 1- Building Mass and Location
Buildings on Van Dyke are primarily one-story. The corridor lacks vertical definition and orientation resulting in a lack of reference points and sense of place. The Ten Mile intersection is an exception with the vertical punctuation of the senior housing tower and the bell tower of St. Clement church. Ideally, greater height and density should be allowed at mile road intersections to create visual interest.

Zoning Revisions
- Permit greater density and architectural scale at select locations.
- Replace setback lines with build-to lines.
- Minimize pyramidal zoning.

Issue 2 – Land Use Types
Similar types of uses and building sizes are found from Eight Mile to the I-696 Expressway. The corridor lacks differentiation in the types of land uses.

Zoning Revisions
- Allow town homes and loft apartments as a matter of right in specific locations.
- Cluster complementary business uses around existing traffic light areas.
- Encourage mixed-use buildings.

Issue 3 – Aesthetic Appeal
Many areas lack aesthetic appeal. Building façade and signage is in need of improvement or repair in several areas. Visible features include parking lots, signage, awnings and dumpsters.

Zoning Revisions
- Strengthen landscape requirements.
- Strengthen parking lot design requirements lessen unsightly appearances.

What Is Overlay Zoning?
An overlay zone is a method of guiding development to meet stated redevelopment principles. This technique retains uses allowed by the original 'underlying" zone; however, a proposed development is required to comply with tailored design standards. This technique can place importance on physical appearance rather than an ambiguous development envelope and list of land uses. Standards affecting building height and location, façade design, off-street parking, site design and access management are often included. If properly crafted, the district can meet the Van Dyke's long-range vision through creative development

- Revise the sign ordinances to lessen visual clutter and promote a clear message to customers.

Adopt Overlay Zoning District and Zoning Revisions
Both Warren and Center Line practice conventional zoning resulting in a corridor that does not work as a whole. A new way of thinking and a different set of tools is needed. While a number of approaches can be considered, the most straightforward is to create an overlay zoning district that follows the Warren TIFA and Center Line DDA boundaries. Development and design standards can be applied as new businesses move into the area or as existing ones wish to expand. Both Warren and Center Line operate under conventional zoning techniques. For Van Dyke, this includes a C2 General Business district in Warren and B3 General Business District in Center Line. Conventional zoning does not say where buildings should specifically go or their proximity to adjacent developments. Conventional zoning sets building envelopes, or the outer limits, where buildings can be sited. This does not

promote a defined street edge or pulse nodes of greater architectural scale. The intent of an overlay zone is to predetermine what the communities want to look like rather than a vague understanding of the visual outcome. It can permit the Cities to look at architectural renderings and have more precise assurance that the picture that is seen will be built.

Adopt Sign Ordinance Revisions

Current sign ordinances have ambiguities. They generally regulate size and location but they don't specifically locate them on the building façade for a cohesive community appearance and effectively communicate to customers. Sign regulations should be included with the zoning ordinance revisions and design guidelines to present a total package for adoption. Signs are a major visual factor. Currently, they contribute to visual clutter, but, with proper guidance, they can be a prime attribute to the "new" Van Dyke Corridor.

Chapter 6: Implementation

Implementation

- *Phasing*
- *First Steps*
- *Funding Sources and Business Incentives*

The Van Dyke commercial district evolved over a long period of time, and redirecting its development pattern will take time as well. Incremental steps completed over a period of years are recommended. Each year, programs and capital improvements should be initiated and implemented based on priority, cost and funding availability. This chapter details the first tasks Center Line and Warren should undertake revitalize the Van Dyke corridor and identifies funding sources the cities' should pursue when implementing the plan.

Phasing

The recommendations of this plan involve a complex arrangement of tasks and players. Insufficient resources for financing and staffing are major obstacles to completing all recommendations. As such, implementation can stretch into the next decade requiring components to be identified, phased and prioritized. Table X lists these tasks plus the anticipated start-up year and duration. The chart associates tasks with the type of project and responsible player: planning and development activities (City); management activities (TIFA/DDA); and, capital improvement strategies (City and State). The schedule should be revised when opportunities present themselves and priorities adjusted as the plan evolves and implementation strategies are refined or modified.

The table below summarizes the implementation strategy that could be followed for the Revitalization of Van Dyke Avenue.

First Steps	
Planning and Development Activities (Cities)	*Coordinate with Michigan Department of Transportation* • Recommendations within the right-of-way require MDOT approval. • MDOT is a source for roadway improvement grants. *Coordinate with Macomb County Planning and Economic Development Department.* • Small business program can benefit many of the existing business owners. • Macomb County Brownfield Redevelopment Authority provides funding to eligible property owners. *Adopt Overlay Zoning District and Zoning Revisions* • Development and design standards are applied as new businesses move into the area or as existing ones wish to expand. *Adopt Sign Ordinance Revisions* • The sign ordinance should be reviewed simultaneously with the zoning ordinance and design guidelines to present a total package for adoption. Recommendations are described in the design guidelines section. *Create Design Guidelines* • Guidelines should be drafted simultaneously with zoning and sign ordinance revisions. These can be included within an overlay zoning district and sign regulations. *Chapter 4 – Recommendations* suggests design requirements for business and residential facades, site design, signs, off-street parking, pedestrian movement, amenities, lighting and landscaping.
Management Activities (TIFA/DDA)	*Secure Grant Funding* • Partner with City staff to locate and compete for available public, private, federal, state, and county funding sources. Large physical improvements should seek Federal and State dollars. To strengthen the street edge, grant and loan programs that assist business owners with facade improvements should be secured.

First Steps	
Capital Improvement Strategies (City and MDOT)	• Continue Design Development – Further explore and refine the recommended design concepts. This includes programming, selection of furnishings and materials, detail design elements and schematic layout. Once the schematic design process is completed and approved, construction documents can be prepared for implementing various elements of the plan. The used of schematic plans to secure grants can be effective. • Signalized Intersection Enhancements - The planning of these improvements should be addressed early on the in project development process as the preparation of preliminary and final engineering drawings, identification of funding sources and the coordination of local/regional project processes will take time. As previously identified above, working with MDOT on right-of-way issues (as necessary) may require a significant period of time. There are 8 signalized intersections where enhancements could potentially be designed along the Van Dyke Corridor. The installation of signal upgrades, potential islands and textured crosswalks could approximate $300,000 per intersection. • Signal Timing Optimization/Progression – This strategy is the easiest to implement in terms of overall project cost and coordination with MDOT. Some minor additional studies may be requested by MDOT to confirm the findings in this study. The implementation of traffic signal timing and optimization projects along the Van Dyke corridor could be implemented immediately at very little cost and provide a benefit to the communities by decreasing congestion throughout the corridor. • Van Dyke Avenue Lane Reductions – The results of the Corridor study indicated that along specific segments of Van Dyke Avenue, the cross section could be reduced to a five lane cross section, whether the roadway cross-section is reduced alone or curbside parking is provided. Similar to the planning of the signal enhancements, these improvements should be addressed early on to develop an integrated approach to the construction along Van Dyke Avenue. The costs per mile of re-constructing landscaping, sidewalks and curb and gutter could approximate $600,000 per mile of roadway. • Streetscape Improvements – The development of a streetscape redevelopment project will occur in concert with the development of future design guidelines for the Corridor. The improvements could include bump-outs at intersections that allow for a more pedestrian friendly environment. There are approximately 100 bump-outs along the corridor that could be improved. Estimated costs approximate $5,000 per bump-out and should be coordinated with the signalized enhancements and laneage projects.

In summary, challenges to moving forward with roadway improvements projects include coordination with the Michigan Department of Transportation as the reviewing roadway agency and identifying funds and financing for the projects. Beginning the processes by following the suggested steps identified in Table 18 will allow the Cities of Center Line and Warren to formulate an integrated approach to the improvement of the Van Dyke Corridor.

Funding Sources

Financing and implementing the recommendations of the Van Dyke Avenue plan could be assisted by a host of funding sources from public, private, local, state, county and federal organizations and agencies.

The recommended strategy is to establish a public-private partnership to pursue a coordinated direction and to prioritize comprehensive funding. Some programs aim at capital improvement projects, while other programs offer loans or grants for encouraging new development. A few selected programs include:

Business Incentives	Purpose	Administered by:
Building Revitalization Program (BRP)	• Assist property owners with businesses with design support, façade improvements, and building rehabilitation	Sample program administered by the City of Kalamazoo DDA
Business Recruitment Incentive Program (BRIP)	• Support the recruitment of new retail and office tenants. • Program is offered to real estate brokers and building owners. • Business prospect must be new to the Downtown Development Area.	Sample program administered by the City of Kalamazoo DDA
Historically Underutilized Business Zone	• A federal program allowing qualified business in qualified HUB Zones preferential treatment in the federal government contracting process	Federal (U.S. Dept. of Housing and Urban Development). Enabling Act: 1997 P.L. 105-135 Contact: Toni Schmiegelow Phone Number: 313.226.7900
Core Communities Fund (CCF)	• Program established to revitalize urban cores	Michigan Economic Development Corporation Contact: MEDC Lansing Office Phone Number: 517.373.9808
Brownfield Redevelopment Authority (BRA)	• Incentives offered for single business tax (SBT), site assessment grants, and redevelopment grants to assist in Brownfield redevelopment • Tax reduction incentives for businesses and multiple-family dwellings located in a Obsolete Property Rehabilitation District	The City of Warren has the tools necessary to implement the available programs through the local Brownfield Redevelopment Authority. The Macomb County Brownfield Redevelopment Authority (BRA) can assist the City of Center Line if a local authority is not created. Contact: *City of Warren Planning Department* Phone Number: 586.574.4687 Contact: *Macomb County BRA* Phone Number: 586.469.5285
Business Improvement District	• Allows qualified downtown and commercial areas (including multiple units of government) of cities to levy a special assessment (in addition to ad valorem property taxes) for district improvement. Tax revenues may be bonded-against to finance district improvements	Local government. Enabling act: 1961 P.A. 120 Contact City Hall: *City of Warren: 586.574.4676* *City of Center Line: 586.757.6800*
Downtown Development Authority	• Allows a local unit of government to establish an authority in designated downtown areas thus eligible for tax increment financing, public and private grants, and having taxing power. Authorities may use TIF, revenue bonds, tax levy (up to two mills) to raise revenue for physical improvements	Local government. Enabling act: 1975 P.A. 197 Contact City Hall: *Gina Cavaliere: 586.574.4676* *City of Center Line: 586.757.6800*

Business Incentives	Purpose	Administered by:
Tax Increment Finance Authority	• Program was an expansion of DDA Act allowing establishment of authorities to use tax increment financing for development efforts. Unlike DDA, TIFA allowed capture for improvement to "public facilities"	Local government. Enabling act: 1980 P.A. 450 **(PROGRAM CLOSED TO NEW APPLICANTS SINCE 1987)** Contact City Hall: *Gina Cavaliere: 586.574.4676*
Small Business and Technology Development Center (Region 10)	• SBTDC (Region 10) addresses the start-up and maintenance needs of small businesses located in Macomb and Street. Clair Counties. Assistance includes business plan development, marketing plans, loan proposals, conduit to SBA financing and financial institutions. Services are free and confidential.	Federal (U.S. Small Business Administration) Contact: Bob Tess, Michigan Small Business & Technology Development Phone Number: 586.469.5118
Industrial Facilities Exemption Tax	• Allows local units of government to grant property tax reductions to qualified businesses as incentive for expansion or redevelopment efforts. Tax abatement equals roughly one-half of tax liability on qualified real and personal property investments. Term of abatement granted (as discretion of local unit): one to twelve years (statutory maximum)	Local government. Enabling Act: 1974 P.A. 198 Contact City Hall: *Tom Zeinsta Economic Development Coordinator: 586.574.4519* *City of Center Line: 586.757.6800*
Community Character Act of 2001 (H.R. 1433 / S. 975)	• Legislation to reform outdated planning statuettes and supporting planning as the basis for smart growth. • S. 975 explicitly states that grants can be used by local governments for implementation of planning and acquire new technologies for planning with a focus on environmental protection and public infrastructure.	Economic Development Administration Contact: Akhtar A. Alvi, P.E. Regional Environmental Officer U.S. Department of Commerce Economic Development Administration Phone Number: 303.844.1418
TEA21	• Provides grants for provision of facilities for pedestrians and bicycles, provision of safety and educational activities for pedestrians and bicyclists, acquisition of scenic easements and scenic or historic sites, landscaping and other scenic beautification, historic preservation, rehabilitation and operation of historic transportation buildings, structures, or facilities (including historic railroad facilities and canals), control and removal of outdoor advertising.	State of Michigan share managed by MDOT. Project applications submitted to MDOT and SEMCOG to be selected for inclusion in annual State and County Transportation Improvement Programs (TIP).

Business Incentives	Purpose	Administered by:
Congestion Management Air Quality (CMAQ) Funding	• Funding applied for by local agency on any projects that aim to decrease congestion and/or increase air quality in metro Detroit area	Cities apply for funding. Local Engineering departments prioritize projects and submit project fuding applications to State.
Act 51 Funding	• State managed road infrastructure funding provided through gas tax and roadway assessments. Monies are distributed based on existing formulas at State level, County Road Commission level and Local level to municipalities.	Funding currently provide to local agencies and Road Commission for roadway infrastructure improvements.

***Sources**: Survey of Economic Development Programs in Michigan (Report No. 334) Citizens Research Council of Michigan, 2001; Macomb County Department of Planning and Economic Development.*